

REMARKS

The Examiner is thanked for the courtesy of the Interview that occurred on Thursday Sept. 16th regarding the outstanding office action. The points discussed in the interview regarding the differences between the present invention and the cited Noma reference are repeated below.

The Art Based Rejections

All of the outstanding art based rejections are based on the Noma reference standing alone or taken in combination with other references. Claims 1-6 (both as originally filed and as presently presented) are directed towards an opto-electronic die that has conductive structures that are formed within the die (as opposed to along the side edges of the die) and are exposed on the opposite side of the die than the photonic device. It is respectfully submitted that the cited Noma reference does not disclose or reasonably suggest such a structure. Specifically, the conductive structures 9(a) shown in Fig. 1A of the Noma reference are deposited on the side edges of the die. Thus, they are not formed in the die as required by claim 1. In view of the foregoing, it is respectfully submitted that the pending rejections of the claims 1-6 should be withdrawn for at least this reason.

Claims 7-12 are directed at wafers having a plurality of photonic devices formed therein. The claims require conductive structure formed in the wafer that are exposed on the opposite side of the wafer as the photonic devices. Again, it is respectfully submitted that the conductors 9a described by Noma are not formed within the substrate. Rather, they are deposited on peripheral portions of the wafer. In view of the foregoing, it is respectfully submitted that the pending rejections of the claims 7-12 should be withdrawn for at least this reason.

It is noted that the rejections of some of the dependent claims incorporated secondary references as part of an obviousness rejection. However, it is respectfully submitted that the secondary references do not make up for the deficiencies in the primary reference and that therefore all of the outstanding rejections should be withdrawn. Additionally, the dependent claims require additional limitations that when considered in the context of the claimed invention, further patentably distinguish the art of record.

The Objections to the Specification, Claims and Drawings

With respect to the objection to the specification, the reference number 116 refers to the top surface of the die 100 as described, for example, at line 6 of paragraph [0011] of the specification. It is noted that the lead line for reference number 116 pointed to the wrong surface in Fig. 2 as originally filed. Accordingly, this inadvertent mistake has been corrected in the

proposed drawing corrections submitted herewith. It is respectfully submitted that the proposed drawing corrections do not add any new matter.

With respect to the objection to the drawings, it is respectfully submitted that the dielectric material 110 referenced by the drawing is shown in Fig. 2 of the drawings as originally filed. Accordingly, it is believed that the drawings did show the reference numeral for the dielectric material and that this objection should be withdrawn.

With respect to the 112 rejection of claim 1, it is respectfully submitted that the photonic devices 104 are indeed exposed on the top surface of the die 100. It is noted that element 106 is a transparent laminate and is not actually a part of the die itself. Regardless, to avoid any potential confusion, claim 1 has been amended to make it clear that the photonic device is optically exposed on the first (e.g. top) surface of the die.

It is suspected that the mislabeling pointed out above might have contributed to the examiner's confusion. Only an adhesive layer separates the laminate transparent layer 106 from the top surface of the die 116 in the illustrated embodiment. On reviewing the drawings it was also noted that the adhesive layer was not clearly labeled, so we have labeled that layer 115 and inserted the reference numeral in the specification. It is also noted that the boundary between the adhesive layer 115 and the cavity 118 was not clearly shown. Accordingly, the drawing has been amended to better illustrate that boundary. Again, it is respectfully submitted that the proposed drawing corrections do not add any new matter.

In view of the foregoing, it is respectfully submitted that all pending claims are patentable over the art of record and that this case is now in condition for allowance. Should the Examiner have any remaining concerns regarding the present application, he is encouraged to contact the undersigned at the telephone number set out below.

Respectfully submitted,
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Amendments to the Drawings:

The attached sheet of drawings includes changes to Fig. 2. This sheet, which includes Figs. 1 & 2, replaces the original sheet including Figs 1 & 2.

Attachment: Replacement Sheet